



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,333	09/24/2001	Yoshihiro Minami	214183US2	4643

22850 7590 07/29/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

MANDALA, VICTOR A

ART UNIT PAPER NUMBER

2826

DATE MAILED: 07/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/960,333

Applicant(s)

MINAMI, YOSHIHIRO

Examiner

Victor A Mandala Jr.

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-14, 22 and 23 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Applicant's Arguments

1. The Applicant has amended the claims in Paper No. 12 and argues that the protruding portion is formed only in a region other than a region directly below the conductive layer wiring. The Applicant views that this amendment reads around the prior art. The examiner has considered the Applicant's arguments but finds them to be non-persuasive because the prior art Figure 19 shows one protruding portion that is not directly under the conductive layer. The claims do not state anything about a plurality of protruding portions, but a protruding portion. The 35 U.S.C. 102(b) rejection as being anticipated over the Applicant's Prior art for claims 1-2 will stand as is and the 35 U.S.C. 103(a) rejection over Applicant's Prior art in view of U.S. Patent No. 5,918,121 Wen et al. for claims 3 and 4 will also stand as is.
2. The Applicant argues that the rejection in Paper No. 12 is traversed because Song does not teach a protective film used to prevent silicidation in an inductor device, but in an LCD. The examiner has considered the Applicant's arguments and finds them to be persuasive. Examiner retracts the 35 U.S.C 103(a) rejection in Paper No. 12 and claims 5-7 and 10-12 will be further examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art.

3. Referring to claim 1, a semiconductor device comprising, (Applicant's Admitted Prior Art Figures 19-20): a substrate, (1); a protruding portion, (2), which is formed on the top face of the substrate, (1), and the top of which serves as a dummy element, (2), for controlling a chemical mechanical polishing process, (Applicant's Admitted Prior Art Figure 20 #2 & Page 2 Lines 20-35), and a conductive layer, (7), which is formed on the substrate, (1), so as to have a spiral shape and which serves as an induction element, (Applicant's Admitted Prior Art Page 1 Lines 35-37), wherein said protruding portion, (2), is formed in a region other than a region directly below said conductive layer, (7).

4. Referring to claim 2, a semiconductor device, (Applicant's Admitted Prior Art Figures 19-20), wherein the substrate, (1), is an SOI substrate, and said protruding portion, (2), is formed of an SOI layer of said SOI substrate, (Applicant's Admitted Prior Art Page 2 Lines 16-21 & the layer directly on the substrate is an insulator, (3), and the layer directly on the protruding portions is an insulator, (4).

5. Referring to claim 21, a semiconductor device comprising, (Applicant's Admitted Prior Art Figures 19-20): a substrate, (1); a protruding portion, (2), which is formed on the top face of the substrate, (1), and the top of which serves as a dummy element for controlling a chemical mechanical polishing process, (Applicant's Admitted Prior Art Figure 20 #2 & Page 2 Lines 20-35); and a conductive layer wiring, (7), which is formed on the substrate, (1), so as to have a spiral shape and which serves as an induction element, (Applicant's Admitted Prior Art Page 1

Lines 35-37), wherein said protruding portion, (2), is formed only in a region other than a region directly below said conductive layer wiring, (7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of U.S. Patent No. 5,918,121 Wen et al.

8. Referring to claim 3, a semiconductor device, wherein the substrate, (Applicant's Admitted Prior Art Figures 19-20), includes an N-type semiconductor layer.

Applicant's Admitted Prior Art discloses all of the claimed matter in claim 4 except for the substrate having a P type dopant, but Werner teaches an silicon based inductor structure, (Wen et al. Figure 6 #16), on a substrate, (Wen et al. Figure 6 #10), in which the substrate, (Wen et al. Figure 6 #10), is doped with a P type dopant, (Wen et al. Col. 5 Lines 15-17). Wen et al. does not disclose the specific usage of a N type substrate, but Wen et al. does disclose that the P type is a preferred type but not limited to.

Wen et al. discloses the claimed invention except for the substrate being of an N type dopant. It would have been obvious to one having ordinary skill in the art at the time the invention was

made to use an N type substrate as an alternative to a P type substrate as claimed in Wen et al.'s invention, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416

It also would be obvious to one skilled in the art to combine the teachings of the Applicant's Admitted Prior Art with the teachings of Wen et al. because the doped substrate increases the quality factor Q, which is advantageous to silicon wire based applications.

9. Referring to claim 4, a semiconductor device, (Applicant's Admitted Prior Art Figures 19-20), wherein the substrate includes a P-type semiconductor layer.

Applicant's Admitted Prior Art discloses all of the claimed matter in claim 4 except for the substrate having a P type dopant, but Werner teaches an silicon based inductor structure, (Wen et al. Figure 6 #16), on a substrate, (Wen et al. Figure 6 #10), in which the substrate, (Wen et al. Figure 6 #10), is doped with a P type dopant, (Wen et al. Col. 5 Lines 15-17). It would be obvious to one skilled in the art to combine the teachings of the Applicant's Admitted Prior Art with the teachings of Wen et al. because the doped substrate increases the quality factor Q, which is advantageous to silicon wire based applications.

Allowable Subject Matter

10. Claims 5-14, 22, and 23 are allowed.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor A Mandala Jr. whose telephone number is (703) 308-6560. The examiner can normally be reached on Monday through Thursday from 8am till 6pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

VAMJ
July 25, 2003


NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800